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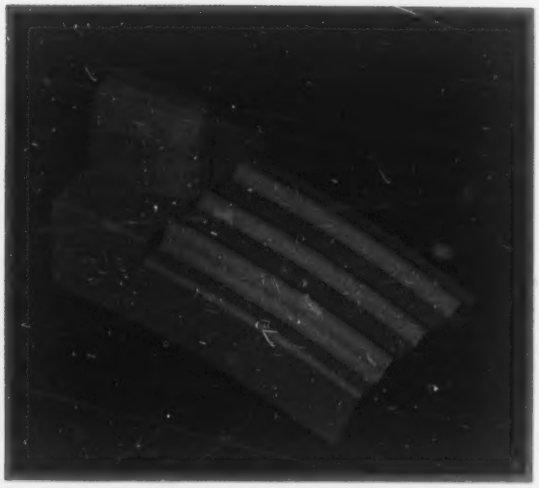
RubberWorld

The technical service magazine for the rubber industry

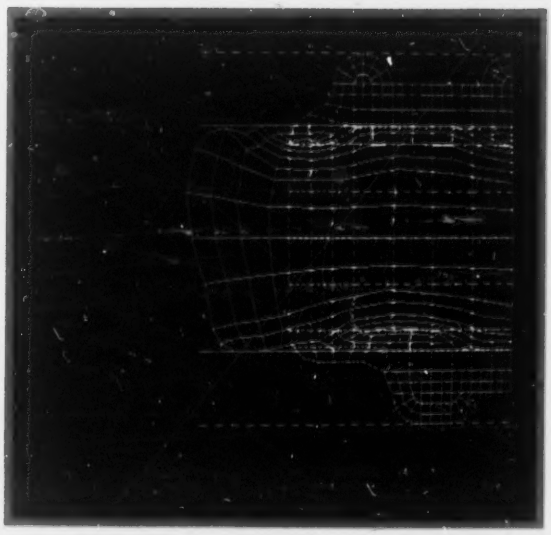
Volume 195, No. 4 January 1987



Tech Service '87

Partners in design evolution... Automotive industry – rubber suppliers

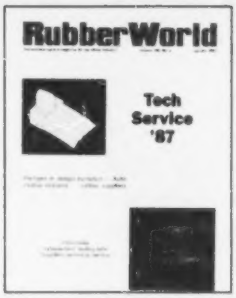
Directories
Independent testing labs
Suppliers technical service



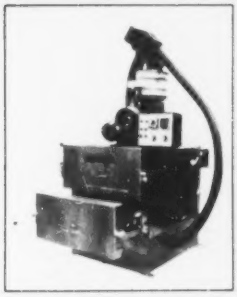
Contents

Vol. 195, No. 4/January 1987

Desktop SPC p. 7



Design partners p. 18



Techno Mart p. 49

5 Business Briefs

Acquisitions, expansions; contracts, licenses; financial statements; markets, news.

7 Quality Management: Desktop SPC

by David Crosby, Crosby & Co. Directions and an X-bar and R worksheet allow the reader to construct control charts and perform a process capability, in order to gain an understanding of statistical process control.

12 Tech Service: An alternative for ETU?

by Jon Menough, contributing technical service editor. This column explores the use of Ricon M.A.D. as a substitute for ethylene thiourea (ETU), a valuable resin that has been proven toxic.

14 Urethane Forum: Opportunities in recreation and leisure

by Bill Stahr, Brad & Associates. A review of papers presented at the fall meeting of the Polyurethane Manufacturers Association dealing with the use of polyurethane in the recreational and leisure fields.

18 Partners in design evolution — the automotive industry and rubber suppliers

by John B. Lewis, Stephen R. Plumley and Karen J. Lewis, Plumley Rubber. Working as partners with their suppliers in the development of products, automotive companies can simultaneously increase quality and decrease costs. Exploring the future of this partnership, the authors examine the past, then look at where this relationship is in the present.

23 Independent testing laboratories directory

An alphabetical listing of independent testing laboratories, along with addresses, contact persons and areas of expertise.

27 Suppliers directory

An alphabetical listing of suppliers to the rubber industry, with addresses, contact persons, quality assurance contacts and technical service areas offered.

42 Suppliers and areas of expertise

Companies and their areas of expertise are cross referenced under the categories of polymers, materials/ingredients, fillers and processing aids.

45 Patent News

edited by Bob Samples, Akron Rubber Development

49 Techno Mart

New equipment, instruments, CAD/CAM, products and materials

Departments

4	Editorial	48	Calendar	58	Literature
46	Meetings	57	Jobs & People	60	Ad Index

Cover

Cover photos courtesy of Plumley Rubber Corp.

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Business Briefs

Acquisitions, expansions

Dow Corning acquired silicone rubber compounders **J-Sil U.S.** and **Western Silicone Products.** J-Sil has plants in Manchester, CT and Kendallville, IN and the WSP facility is located in Walnut, CA.

The **M.S. Hanna Co.**, Cleveland, OH acquired **Burton Rubber Processing**, Burton, OH, a custommixer with plants in Burton, Macedonia, OH and Jonesboro, TN.

Exxon Chemical's French subsidiary, Socabu, completed a 30% expansion of its ethylene-propylene rubber plant at Notre-Dame-de-Gravenchon to 65,000 tons per year.

SunCor Development Co. acquired substantially all of the assets of the Goodyear Farms, Litchfield Park Properties and the Westinghouse-Goodyear Properties in the Litchfield Park - Goodyear area in Arizona as part of **Goodyear's** restructuring program.

Arco Chemical will acquire the polyols manufacturing facilities of Atochem at Rieme, Belgium. The plant has a 70,000 tons per year capacity but Arco will make additional investments for debottlenecking and modernization.

Phelps Dodge Corp. completed its purchase of **Columbian Chemicals** for approximately $250 million. Columbian is the second largest producer of carbon blacks in the U.S., operating five plants domestically and, through subsidiaries, six carbon black plants in the U.K., Canada, Germany, Italy and the Phillippines.

Salem Republic Hose, Sebring, OH doubled its custom calendering capacity.

Great Lakes Chemical has agreed to purchase **Pentech Corp.** which includes **QO Chemicals** as a subsidiary.

Pony Industries acquired the ChemLink business groups, certain specialty chemical units and the building products units of **Arco Chemical.**

The **Kelly-Springfield Tire Co.** will retain its headquarters in the Cumberland, MD area by building a 97,500 sq. ft. office building with a 55,000 sq. ft. adjacent tire testing laboratory.

BFGoodrich acquired the Jet Electronics & Technology Inc., a **Gates Learjet** subsidiary located in Grand Rapids, MI

Rhe-Tech, Inc., Whitmore Lake, MI increased production capacity by 30 million pounds annually for its thermoplastic compounds, alloys and elastomers.

British Petroleum Co. bought the Hitco subsidiary of **Owens-Corning Fiberglas.** Hitco has interests in both advanced materials and the fabrication of end products for aerospace, automotive and marine industries.

Hercules Inc. and **AccuRay Corp.**, Columbus, OH have agreed to merge. AccuRay manufactures measurement and control systems.

The **Hutchinson Group** has purchased substantially all of the business assets of **CRC Corduroy** and **CRC Cadillac** and will continue to manufacture the complete line of anti-noise and anti-vibration rubber products through Paulstra CRC Corp.

Samsung Petrochemical Co., a joint venture between Samsung Group, Amoco Chemicals and Mitsui Petrochemical Industries is undertaking expansion of its Ulsan, Korea purified terephthalic acid facility. Upon completion in January 1988, capacity will increase to 220,000 metric tons of PTA annually.

C.P. Hall acquired the packaged chemical division of **K.A. Steel Chemicals Inc.**

Asarco has established a Technical Services Center in Salt Lake City, UT to provide consulting services in various areas including engineering, environmental sciences, research and security.

Rheometrics opened offices in Chicago, IL, Austin,

RMA rubber report through September 1986(figures in metric tons)

	Cumulative 1986	Cumulative 1985	% change
Total new rubber			
New rubber available	2,290,871	2,235,562	2.47
Imports	777,548	815,233	-4.62
Exports	291,128	276,514	5.29
Apparent consumption	1,985,816	1,966,228	1.00
Total natural rubber			
Imports	585,127	604,521	-3.21
Exports	28,158	29,949	-5.98
Apparent consumption	561,274	585,974	-4.22
%total new rubber	28.26	29.80	
Total synthetic rubber			
Production	1,513,323	1,420,329	6.55
Imports	192,421	210,712	-8.68
Exports	262,970	246,565	6.65
Apparent consumption	1,424,542	1,380,253	3.21
Total SBR			
Production	575,349	563,599	2.08
Imports	75,027	73,992	1.40
Exports	76,762	63,002	21.84
Apparent consumption	581,265	589,482	-1.39
Total nitrile			
Production	45,735	42,669	7.19
Imports	9,173	8,859	3.54
Exports	8.968	4,995	79.54
Apparent consumption	46,448	45,278	2.58
Polybutadiene			
Production	262,085	262,967	.05
Imports	41,703	53,429	-21.95
Exports	15,564	18,767	-17.07
Apparent consumption	271,802	287,720	-5.53
Ethylene-propylene			
Production	177,458	169,223	4.87
Imports	3,521	725	385.6
Exports	34,281	27,724	23.65
Apparent consumption	140,943	136,897	2.96
Butyl, polychloroprene, polyisoprene, silicone and other synthetic elastomers			
Production	452,696	382,871	18.24
Imports	62,997	73,707	-14.53
Exports	127,395	132,077	-3.54
Apparent consumption	384,083	320,875	19.70

Business Briefs

TX and Newport Beach, CA.

Carlisle Companies Inc. has acquired **Data Electronics, Inc.**, a San Diego, CA manufacturer of magnetic tape data cartridges and other data communications products and **DSI Inc.**, Denver, CO a company that sells and services data communications equipment.

BASF Corp. has begun construction on plants for the production of specialty amines and polytetrahydrofuran and is expanding tetrahydrofuran capacity at its Geismer, LA facilities.

Bridgestone Canada moved its head office operations from Vancouver to Toronto.

Contracts, licenses

Under a joint agreement between the U.S. Departments of Agriculture and Defense, **Firestone** was awarded a contract to support the development of a domestic natural rubber industry. Firestone is to design, construct and operate a prototype plant for the commercial processing of guayule at the Gila River Indian community near Phoenix, AZ. The plant, to be in operation by early 1988, will use a solvent extraction process to recover the rubber and will have a capacity of 150 long tons per year.

Carlisle SynTec Systems chose **Coastal Atlantic Associates** as its representative in Maryland and Virginia for its single ply roofing systems.

Neville Chemical named **G-3 Industries**, Aurora, CO as agent representative for the Rocky Mountain area for its hydrocarbon resins and paraffins.

Financial statements

Blasius Industries reported net earnings for the second quarter of $438,000 on sales of $11.6 million.

Firestone reported net income for the fiscal year ending Oct. 31, 1986 of $85 million. Sales totaled $3.5 billion.

Markets, news

Goodyear predicts a substantial growth in sales of automotive aftermarket parts this year predicated on the fact that motorists are driving their cars farther and keeping them longer. The belts and hose industry alone should grow to $975 million in retail sales, a 5% increase over 1986, according to Paul Foley, Goodyear's manager of automotive replacement products. He predicts that the average miles driven per vehicle should exceed 10,000 miles a year which would be a record and that the average car age will set a record of 7.9 years and the truck population should hit 8.6 years.

The U.S. chemical industry made a strong recovery during 1986, benefitting from the costly restructuring and reorganization which made 1985 one of the worst in its history. The industry's 1986 earnings are expected to be a record $13.3 billion, 54.5% above 1985 earnings. However, the 1986 earnings performance is only 2.3% above the previous record of $13 billion set in 1981 and again in the post-recession recovery year of 1984. Total industry sales during 1986 are expected to be $216 billion, just 1% over 1985. During 1986 the chemical trade surplus rose for the first time in five years by 5% to $7.6 billion. U.S. chemical exports are expected to reach $22.7 billion, or 10.5% of total industry shipments. Chemical imports continued to climb as well, by 4% over 1985 to a record $15.1 billion.

RMA tire report through September (figures in thousands of units)

Passenger tires	YTD 1986	YTD 1985	%change
Shipments			
Original equipment	46,494	46,619	-0.27
Radial	39,120	38,888	0.60
Replacement	121,512	119,588	1.61
Radial	104,922	96,625	8.59
Export	3,340	4,060	-17.73
Radial	2,568	3,170	-18.99
Total	171,346	170,267	0.63
Radial	146,610	138,683	5.72
Production	134,027	138,338	-3.12
Radial	113,426	110,464	2.68
Truck & bus tires			
Shipments			
Original equipment	5,833	6,556	-11.03
Radial	3,913	4,131	-5.28
Replacement	27,134	26,894	0.89
Radial	13,023	11,623	12.05
Export	1,097	1,125	-2.49
Radial	656	602	8.97
Total	34,064	34,575	-1.48
Radial	17,592	16,356	7.56
Production	25,935	29,601	-12.38
Radial	12,699	13,525	-6.11

Synthetic rubber imports(000 tons)

	1980	1982	1984	1985
Germany, F.R.	244.1	240.6	257.2	273.6
U.S.A.	125.8	145.6	237.0	264.9
Italy	153.8	127.3	147.7	160.9
France	172.7	133.8	145.4	147.4
U.K.	137.1	137.4	136.7	142.4
Japan	51.1	60.7	57.9	66.9

Source: IRSG

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